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BOOK REVIEW

Proceedings of 1993 European School of High Energy Physics
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The school of 1993 was the first in a new series of schools organised on a yearly basis by CERN in collaboration with JINR, Dubna. It is targeted for young experimental physicists and aims at providing them adequate theoretical and experimental grounding in particle physics, starting right from the basics of quantum field theory, so that they can understand, appreciate, and are motivated to contribute to experiments in particle physics which are presently in progress or are planned for the immediate future at CERN and other high energy physics laboratories.

There were three courses of lectures in the school which can be grouped under the general title 'Quantum Field Theory'. The first among these, 'Quantum Field Theory for Experimentalists' by S Bilenky covers a wide area, right from Dyson-Wick expansion in relativistic perturbation theory all the way to dimensional regularisation and renormalisation in the electro-weak sector of the standard model. He also introduces the reader to the topic of deep inelastic scattering. All this is achieved very economically in 62 pages. The only omission worth mentioning is the topic of chiral anomaly. The lectures by L E Ibanez on 'The Standard Model and Beyond' are not reprinted in the volume. The scope of the lectures on 'Radiative Corrections' by Z Was is restricted to a thorough step by step demonstration of the exponentiation of the leading log infrared divergences due to the emission of arbitrary number of soft photons in processes (inclusive) in quantum electrodynamics.

In Part-II of the volume the lectures on 'Quantum Chromodynamics' given by B R Webber in the 1992 school have been reprinted. This series of lectures complements those by Bilenky and Ibanez in the 1993 school and provides the basics of perturbative QCD. These basic principles and their phenomenological implications are nicely illustrated with applications to electron-positron annihilation, jet physics, and deep inelastic lepton scattering.

The lectures of A D Martin on 'QCD and Deep Inelastic Scattering' in the companion volume provide a thorough account of theoretical approximation schemes and analysis of data including the latest ones from HERA in the small x region. These should be of considerable

interest for both experimental and theoretical researchers, particularly those among the latter who would like to pursue this subject.

'CP Violation for Pedestrians', by A Masiero constitute an excellent introduction to CP violation in K_o–K_o system, while M Kutschera gives in his lectures 'Introduction to Physical Cosmology' an elementary introduction to some of the popular topics in physical cosmology.

On the experimental side, the lectures by C W Fabjan provide an overview of two major areas of particle detection, position and energy measurements. Results of LEPI at CERN are reported in lectures by L Rolandi while A Wagner gives a detailed account of the new major facility at DESY, the electron proton storage ring HERA. Future experimental programmes in the Tev energy regime are discussed by G Flugge. Finally, present and future projects at CERN are presented by P Darriulat while experimental high energy physics programmes in Poland and at JINR, Dubna are discussed in the lectures by K Rybicki and A Sissakian respectively.

In conclusion, the proceedings in two volumes should be of interest and help to those who are engaged in teaching particle physics and QCD. Researchers involved in probing deep inelastic lepton scattering should find the lectures by A D Martin immensely helpful.

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